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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/631,964	08/03/2000	Tohru Ueda	925-153	1184

7590

09/26/2002

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EXAMINER

AKKAPEDDI, PRASAD R

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 09/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/631,964

Applicant(s)

UEDA ET AL.

Examiner

Prasad R Akkapeddi

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s): ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention: The claimed limitation " the signal wiring being electrically connected to..... the lead electrode and the third contact hole", is not clear. The signal wiring connecting to the pixel electrode via the first contact hole is clear. However, it is not clear how the signal wiring is connected to the rest of the elements through various contact holes.

4. Claim 6 recites the limitation "gate electrode" in claim 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Dohjo et al (Dohjo) (U.S. Patent No. 6,078,366).

As to claim 1: Dohjo in disclosing an array substrate for a liquid crystal display device of the light transmissive type (Col 7, line 1), discloses a transparent substrate (101) a gate wiring, a signal wiring (111) perpendicular to the gate wiring (110), an auxiliary capacitance wiring (113) (Col 7, lines 54-56) that is generally parallel to the gate wiring and perpendicular to the signal wiring, a thin film transistor (112) having either one of a source region (126b) and a drain region (126a) connected to the signal wiring, and a pixel electrode (131) to which the other one of the source region and the

drain region of the thin film transistor (112) is connected via a lead electrode (also called gate electrode) (elongated region Col 9, line 43), wherein the signal wiring, the gate wiring, the auxiliary capacitance wiring and the lead electrode are made of a light shading material (Mo-W alloy and other materials Col 7, lines 23- 29 and Col 1, lines 57-60), a semiconductor thin film (120) is formed for each pixel electrode below the signal wiring, the gate wiring, the auxiliary capacitance wiring and the lead electrode via an insulating film (117), a region that belongs to the semiconductor thin film and is located below the signal wiring and below the gate wiring is made to serve as a channel region (Fig. 2) of the thin film transistor and an auxiliary capacitance electrode region (Cs).

As to claim 2: Dohjo discloses an overlap region of the signal line and the pixel electrode is closely located to increase the aperture ratio (Col 9, lines 49-51)

As to claims 3 and 4: Dohjo in Fig. 2 discloses a lower layer light shading film (111, since a metal can serve as a light shield) formed below the semiconductor thin film and on the transparent substrate so as to cover a region that includes at least the channel region of the thin film transistor of the semiconductor thin film covers a region located between the gate wiring and the auxiliary capacitance wiring.

As to claim 5: Dohjo discloses a first contact hole (153) a second contact hole (156) and a third contact hole (154).

As to claims 6-7: Dohjo discloses that gate electrode (lead electrode) (col. 12, lines 66-67) is formed which is integral with scanning line (signal wiring 111). The signal wiring and the auxiliary capacitance wiring are made of a same material.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

a. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dohjo in view of Sonehara (U.S. Patent No. 6,201,584). Although Dohjo discloses the use of MO-W alloy for gate electrode, he does not explicitly disclose the use of other material such as MO, Chromium etc., as the material for the gate electrode. Sonehara, on the other hand discloses the use of other material such as Chromium, Aluminum etc., as the choice material for the electrode (Col 7, lines 41-47). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the one of the materials disclosed by Sonehara to the device disclosed by Dohjo for reducing the device capacitance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prasad R Akkapeddi whose telephone number is 703-305-4767. The examiner can normally be reached on 7:00AM to 5:30PM M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William L Sikes can be reached on 703-308-4842. The fax phone numbers

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for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0530.

September 19, 2002

William L. Seke